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ABSTRACT

This paper addresses the question of whether there are significant differences among students in five certification areas in their attitudes toward educational research and their achievement in educational research coursework. Seventy-nine students of five certification areas in five graduate sections of educational research taught by the same instructor were administered the Attitudes toward Educational Research Scale (ATERS) at the end of the quarter. All students took the same course examination. There were no significant differences in mean scores of students enrolled in the five certification areas in attitude, achievement, or on selected items from the ATERS. This study provides empirical support for the practice of having a generic course in educational research, one designed to meet the needs of any student enrolled in any graduate program in education. (Author/PN)

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A COMPARISON OF EDUCATIONAL RESEARCH ATTITUDES AND ACHIEVEMENT OF STUDENTS IN FIVE CERTIFICATION AREAS

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Abstract

Seventy-nine students of five certification areas in five graduate sections of educational research taught by the same instructor were administered the Attitudes toward Educational Research Scale (ATERS) at the end of the quarter. All students took the same course examination. There were no significant differences in mean scores of students enrolled in the five certification areas in attitude, achievement, or on selected items from the ATERS.

A COMPARISON OF EDUCATIONAL RESEARCH ATTITUDES AND ACHIEVEMENT OF STUDENTS IN FIVE CERTIFICATION AREAS

An introductory course in educational research typically appears in graduate education programs. This course is usually designed by those who are to teach the course and approved by a curriculum committee at the college level. The course is usually designed to meet the needs of all graduate education majors, and little if any adaptations are made for groups within the course.

The question arises as to whether course work designed for all education majors is equally responded to by those students who plan to teach in various areas or at different levels. There is a tacit assumption that a course like educational research, taught at the graduate level, would be equally valuable to those who teach in special education, early childhood programs, the middle grades, the content areas of the secondary school, and physical education.

Little is known about how groups within such a course might profit from or react to that course. With the possibility of "permission of the department" registration procedures, in larger schools it would be possible to limit students in a section to those in a particular certification area if it were determined that there was a need to do so. If such limited enrollments were not possible due to small class size, it would be possible for the instructor to make some in-class adjustments if it were determined that the certification groups indeed were significantly dissimilar.

Isakson and Ellsworth (1979) and Benton and Jerrolds (1983) found that taking a course in educational research improved subjects' attitudes

toward educational research. Napier (1979) and Benton and Jerrolds (1983) found that research attitude scores were not significantly related to achievement scores in the course. Thus it is incumbent on researchers in this area to examine both attitudes and achievement.

Specifically, this paper addresses the question of whether there are significant differences among students in five certification areas in their attitudes toward educational research and in their achievement in educational research coursework. If systematic differences are detected, this identification would have implications for teachers of educational research in modifying their coursework for some of the groups or in trying harder to improve attitudes of certain of these groups toward educational research.

Method

Subjects

Subjects were drawn from 83 students enrolled in five graduate sections of educational research during winter, spring, and summer quarters of 1983 at North Georgia College. All sections were taught by the same instructor. The students were classified as majoring in special education (22), early childhood education (20), middle grades education (12), the content areas of secondary education - social studies, sciences, mathematics, English, and psychology (14), and physical education (11). Four students were majoring in other areas - counseling and home economics. Thus, these four students were eliminated from the study.

Instruments

Achievement in the educational research course was measured by

two multiple-choice examinations constructed by the instructor of the course. All students took the same midterm and final examinations. All items on the examinations were matched with objectives for the course. Approximately one-half of the items were taken from the instructor's manual that accompanied the students' textbook (Ary, Jacobs, and Razavieh, 1979). The reliability estimate (KR21) of the midterm examination was .84, and for the final examination the reliability estimate was .87.

Attitude in the course was measured by the Attitudes toward Educational Research Scale (ATERS) administered on the last day of classes. To give greater assurance that the subjects would be truthful in their responses to the attitude instrument, subjects were told that their scores would have no effect on their grade in the courses and that, in fact, the ATERS would not be scored until their grades had been turned in.

ATERS is a 50-item Likert-type scale, designed by Isakson and Ellsworth (1979), which measures teachers' attitudes toward educational research. The authors of the instrument have reported an internal consistency reliability of .92 using coefficient alpha. A test-retest coefficient was reported to be .62. The retest was taken one semester after the test, thus the reported coefficient might be a lower estimate than most such comparisons because of the longer interval. The authors of the instrument report a number of construct validity studies indicating there is reason to believe the instrument to be an acceptable tool for examining teachers' attitudes toward educational research.

Each of the fifty items on the ATERS appears to ask for specific

information on attitudes that would be interesting and useful to those who teach educational research courses. However, since there are fifty items, and since some appear to be looking at different facets of the same concern, it did not appear to be practical to check for differences among the five groups on each of the items. The researchers studied all fifty items to pick the three that appeared to reflect: (1) a key or critical question about attitudes toward educational research and (2) a very different kind of item concerning those attitudes.

Thus the three following items were selected by the researchers for special study: (1) educational research has revealed important information about the teaching-learning process (ATERS item number 3), (2) Courses in educational research are of value to students in education (ATERS item number 10), and (3) I would like to carry out some research in my own classroom (ATERS item number 25).

Analyses

One-way analyses of variance were used to determine if there were significant differences in the mean scores of the five certification areas on the educational research examinations and the ATERS. In addition, one-way analyses of variance were used to compare the students in the five certification areas as to how they responded to three selected items on the ATERS.

Results

Tables 1 and 2 report the means, standard deviations, and ranges for the achievement in the educational research course and for scores on the ATERS for the five certification areas. A summary of the results

of the one-way analyses of variance for these two measures is presented in Tables 3 and 4. At the .05 level of significance, there were no significance differences on the average achievement scores or on the average ATERS scores for the five certification areas (F's = 1.48 and 0.15, respectively).

Table 5 presents the means of the five certification areas on the three selected items from the ATERS. Results of the ANOVAs for testing the differences among the means for the five certification areas for the items are presented in Table 6. There were no significant differences at the .05 level in the averages of each of the three items for the five certification areas (F's = 1.00, 0.52, and 0.09).

Discussion

One might suspect that students seeking graduate certification in different areas of education might be systematically different from each other in their achievement in a course such as educational research or in their attitudes toward the course. Thus there would be the need for some differentiation of course content or in enrollment procedures. However, the results of this study revealed no significant differences among the five groups in achievement or in attitudes. The study thus provides empirical support for the practice of having a generic course in educational research, one designed to meet the needs of any student enrolled in any graduate program in education.

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Table 1

Descriptive Statistics on Achievement in Educational Research for Students in Five Certification Areas

Certification Area	n	$\bar{X}$	SD	Range
Special Education	22	111.82	12.35	52
Early Childhood Education	20	109.15	14.45	45
Middle Grades Education	12	114.25	13.97	47
Secondary Education	14	110.64	16.76	57
Physical Education	11	99.36	15.99	43

Table 2

Descriptive Statistics on the Attitudes toward Educational Research Scale for Students in Five Certification Areas

Certification Area	n	$\bar{X}$	SD	Range
Special Education	22	191.32	22.62	103
Early Childhood Education	20	191.70	18.17	75
Middle Grades Education	12	193.67	11.14	39
Secondary Education	14	188.79	20.67	86
Physical Education	11	188.91	18.56	62

Table 3

Significance Test for Differences among Five Certification Areas in Achievement in Educational Research

Source	d.f.	M.S.	F
Certification Area	4	309.88	1.48
Error	74	109.78	

Table 4

Significance Test for Differences among Five Certification Areas in Attitudes toward Educational Research Scale

Source	d.f.	M.S.	F
Certification Area	4	53.52	0.15
Error	74	370.01	

Table 5

Means of Three Selected Items from the Attitudes toward Educational Research Scale (ATERS) for Students in Five Certification Areas

ATERS Item No.	ATERS Statement	Sp.Ed.	E.C.E.	M.G.	Sec.	P.E.
3	Educational research has revealed important information about the teaching learning process	3.86	4.10	3.58	4.00	4.18
10	Courses in educational research are of value to students in education	4.09	4.25	4.25	4.00	4.00
25	I would like to carry out some research in my own classroom	3.59	3.70	3.58	3.64	3.72

*Items are rated on a five-point scale with 5 being the most positive.

Table 6

Significance Tests for Differences among Five Certification Areas on Selected Items from the Attitudes toward Educational Research Scale (ATERS)

ATERS Item 3: Educational research has revealed important information about the teaching-learning process.

Source	d.f.	M.S.	F
Certification Area	4	0.71	1.00
Error	74	0.72	

ATERS Item 10: Courses in educational research are of value to students in education.

Source	d.f.	M.S.	F
Certification Area	4	0.23	0.52
Error	74	0.44	

(table continues)

Table 6

Significance Tests for Differences among Five Certification Areas on Selected Items from the Attitudes toward Educational Research Scale (ATERS)

ATERS Item 25: I would like to carry out some research in my own classroom.

Source	d.f.	M.S.	F
Certification Area	4	0.06	0.09
Error	74	0.70	